

REMARKS

The office action of April 16, 2010, has been carefully considered.

It is noted that the claims 1-3 and 5-10 are rejected under 35 U.S.C. 103(a) over the patent to Hanazaki et al. in view of the patent to Weyer et al.

In view of the Examiner's objection to and rejection of the claims, applicant has amended claims 1 and 3. Applicant has amended the independent claims pursuant to the suggestions made by the Examiner in paragraph 5 on page 5 of the Office Action.

It is respectfully submitted that the claims presently on file differ essentially and in an unobvious, highly advantageous manner from the methods and constructions disclosed in the references.

Turning now to the references, and particularly to the patent to Hanazaki et al., it can be seen that this patent discloses a continuous casting method and apparatus. Hanazaki et al. do not teach rotationally driven rollers within the roller segment, as in

the presently claimed invention. There is also no teaching of a drive motor for rotationally driving the rollers, and an automation system in communication with the drive motor, as in the presently claimed invention.

The patent to Weyer et al. also discloses a continuous casting method and apparatus. As with Hanazaki et al., Weyer et al. do not teach rotationally driven rollers within the roller segment, as in the presently claimed invention. In Weyer et al. the rollers 3 are not rotationally driven, but instead are driven toward and away from the billet by the cylinder units 8-11. There is also no teaching of a drive motor for rotationally driving the rollers, and an automation system in communication with the drive motor, as in the presently claimed invention.

The Examiner combined Weyer et al. and Hanazaki et al. in determining that claims 1-3 and 5-10 would be unpatentable over such a combination. The present invention arranges rotationally driven rollers within the roller segment, which provides a positive influence on the path of forces in the roller segment. In particular, when the roller segments have a specific angular setting, there is an intensive transfer of force onto the cast strand or the cold bar (see the paragraph beginning on line 15 of

page 3 of the specification of the present application).

With swiveling roller segments as recited in the present invention, the provision of integrated driven rollers allows an individual adjustment of the force and pressure states when the roller segments are switched from a position-controlled operation to a pressure-controlled operation. With the rotationally driven rollers installed on the segment entrance side and/or the segment exit side, as recited in the claims now on file, there is an optimal dynamic positioning of the piston-cylinder units, whereby the force or pressure states corresponding to the setting of the roller segments are transferred individually to the cast strand.

In contrast to the presently claimed invention, neither Hanazaki et al. or Weyer et al., nor their combination teach rotationally driven rollers installed within the roller segment. Thus, one skilled in the art would not find it obvious from this combination of references to provide rotationally driven rollers in a roller segment so as to support the force or pressure of the piston-cylinder units in order to prevent damage to the roller segments due to the action of excessive forces. The combination of references does not teach the presently claimed invention.

Furthermore, the invention is drawn to a continuous casting device and method for casting blooms and billets. Hanazaki et al., on the other hand, deal a method and device for producing cast slab. The present invention also claims rotationally driven rollers in the segment entrance side and/or the segment exit side of the roller segments. Hanazaki et al. do not teach driven rollers in the roller segments. Still further, Hanazaki et al. do not teach a base automation system in communication with the drive motor. There is only a teaching individual controls for controlling a single reducing stand.

It is the arrangement and centralized control of the rotationally driven rollers of the present invention that makes possible the force and pressure needed to produce blooms and billets. There is no teaching by the references of the features present in the amended independent claims which make possible the production of blooms and billets by continuous casting.

In view of these considerations it is respectfully submitted that the rejection of claims 1-3 and 5-10 under 35 U.S.C. 103(a) over the above-discussed references is overcome and should be withdrawn.

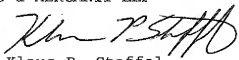
Reconsideration and allowance of the present application are respectfully requested.

Any additional fees or charges required at this time in connection with this application may be charged to Patent and Trademark Office Deposit Account No. 02-2275.

Respectfully submitted,

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By:


Klaus P. Stoffel

Date: July 15, 2010